

# PDR RID Report

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**Document** PDR

<b>RID ID</b>	<b>PDR</b>	117
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<b>Priority</b>	2	

**Section** NA

**Page** RT-95, RT-96, AM3-36,  
AM3-38

**Figure Table**

**Category Name** Design

**Actionee** HAIS

**Sub Category**

**Subject** State checking

## **Description of Problem or Suggestion:**

The design apparently limits spacecraft state checking to discrete TLM mnemonics. State checking should also include value ranges for selected analog TLM mnemonics, and context-dependent evaluation. For example, the "state" of a component might not be limited to its ON/OFF state, but may include whether its voltage and temperature are within acceptable ranges if it is ON, and whether its temperature is within a different acceptable range if it is OFF. Nominal limit checking serves a similar purpose during the period throughout real-time contacts, but state checking is an autonomous function performed very quickly at the beginning of each contact, covering a myriad of TLM values rapidly, with autonomous notification of unexpected states. Expanding the scope would be very beneficial to the FOT.

## **Originator's Recommendation**

Expand the capabilities of state checking to include value ranges of analog TLM mnemonics, and to include context-dependent evaluation.

## **GSFC Response by:**

## **GSFC Response Date**

**HAIS Response by:** D. Herring

**HAIS Schedule** 2/3/95

**HAIS R. E.** D. Dunn

**HAIS Response Date** 1/17/95

The design for checking the spacecraft commanded state emulates the mechanism used by the Command subsystem for telemetry verification of commands through comparison of discrete telemetry points. As our current understanding is that range checks of analog parameters would occur infrequently, and these checks could be performed via associated derived parameters.

Direct range checking of analog parameters is not in our current baseline. If in the future it is found that range checks of analogs is more frequent than anticipated, we could consider direct range checking of analogs as an additional parameter conversion type within the telemetry subsystem design.

**Status** Closed

**Date Closed** 2/1/95

**Sponsor** Johns

\*\*\*\*\* Attachment if any \*\*\*\*\*